EASTERN REGION

MONONGAHELA NATIONAL FOREST

GYPSY MOTH SPRAYING PROJECT

OPERATIONS HEALTH AND SAFETY PLAN

1994

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00.0 INTRODUCTION

This Safety Plan is specific for the aerial application of the pesticides Bacillus thuringiensis (Bt); and, Nucleopolydedrosis Virus (NPV), commonly known as GYPCHEK, toward the suppression of Gypsy Moth. The goals of this Health and Safety Plan are to:

Eliminate all avoidable accidents.

Create and maintain a positive attitude in all employees toward personal health and safety.

Promote safety awareness, responsibility, and accountability.

Identify and eliminate hazardous conditions wherever possible.

Promote the wellness of employees and their family members.

Regardless of how thorough this Health and Safety Plan may appear, each person on the project should be constantly alert to detect any unsafe practices and provide immediate corrective action to eliminate or deter these acts. This is a Health and Safety Plan as well as a Project Work Plan detailing operational and organizational procedures.

10.0 GENERAL SAFETY

Hazards associated with this project are briefly addressed below. More specific information is included in the Appendices and in the Health and Safety Code, FSH 6109.11. Review the Job Hazard Analysis (JHA) with the work crew at the beginning of the project and use it as a guide for tailgate sessions which should be held each day. This project is not a familiar one and new people are involved. Encourage safety procedure improvement suggestions from co-workers and act on the suggestions, give reasons if the idea is not accepted.

Injuries can occur in a fraction of a second. Take every precaution necessary to eliminate any hazards that you see and safeguard our employees and the public.

JOB HAZARD	HSC HANDBOOK PAGES
Vehicle Traveling	11 - 21
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Foot Travel	36 - 37
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Pesticides

In general, the spray materials used for this project have low to no toxicity to humans, but unnecessary contact with these materials should be avoided. Also, some people are hypersensetive to certain compounds. Personnel should not be employed who have known hypersensitity to compounds being used. Check the Material Safety Data Sheet in Appendix H to learn the compounds used, and their potential hazards. The crew supervisors should be informed of any allergies or medicines a crew member has so that in the event of an emergency, the supervisor can alert an EMT or physician and better administer aid to the person. Since symptoms of pesticide poisoning vary depending on exposure, an individual feeling abnormal in any way should report immediately to the on-site project supervisor.

The health and safety precautions to be followed when using pesticides includes:

Washing hands with soap and water immediately after contact with chemicals before handling food or tobacco substances. DO NOT EAT, DRINK, OR SMOKE WHILE USING PESTICIDES!

Washing work clothes daily and changing to clean clothing when not on duty.

Ensuring that mixing, loading, and application crews have eye protection and dust masks available for use.

FOOT TRAVEL

Field crews will constantly be traveling by foot to reach spray blocks and put up balloons; and this may be done at near dark conditions early in the morning. Be prepared to deal with blisters, fatigue, falling, brush, disorientation, briers, fences (electric and barbed).

Field supervisors need to be certain that permission has been granted and then notify private landowners in advance of crossing their land.

VEHICLE TRAVEL

Always use **defensive** driving techniques and limit speeds to those appropriate to the vehicle and the road you are traveling. Drive only on roads that are appropriate for the vehicle you are driving. You won't save time if you get stuck or have an accident to avoid a half mile walk. Wear your seatbelts at all times while the vehicle is in motion. When driving on forest roads and during dawn or dusk, turn your headlights on so you can be easier seen by other motorists. Watch out for deer, there are many in the area and most active at dusk and dawn.

AIRCRAFT

Though aircraft are located in areas of greater control, caution is still required to stop intruders or trespassers in the area of operation. **NO UNAUTHORIZED PERSONNEL WILL BE AROUND THESE AIRCRAFT UNLESS THEY HAVE GAINED PERMISSION FROM THE CONTRACTOR. NEVER WALK AROUND AN AIRCRAFT WHILE THE PROPELLERS ARE IN MOTION AND NEVER APPROACH THE AIRCRAFT UNTIL IT HAS COME TO A COMPLETE STOP AND THE PILOT CAN SEE YOU. THE DANGER ZONE AROUND THESE AIRCRAFT IS THE PROPELLER AREA. NO EMPLOYEE, OTHER THAN THE GROUND CREW, SHALL BE WITHIN 150 FEET OF AN AIRCRAFT WHEN THE ENGINES ARE OPERATING. THE PILOT AND CREW ARE FOCUSED ENTIRELY ON PREFLIGHT CHECKLISTS, AIRCRAFT INSTRUMENTS, RAMP PROCEDURES & TRAFFIC, AND RADIO COMMUNICATIONS. THE PILOT HAS PLENTY TO DO THAN TO BE CONCERNED WITH FOREST SERVICE**

AVIATION SAFETY MEASURES

1. Operations Area will be cordoned off and signed "authorized personnel only" and "no smoking".

2. No spectators will be allowed in the fenced off area, without approval, from the Operations Center at the Airport.

3. Smoking will not be permitted within 50 feet of any fueling or loading operations.

4. Approach or leave aircraft only when authorized by pilot or base manager.

20.0 BIOLOGICAL HAZARDS

ALLERGY TO GYPSY MOTHS

This is unavoidable working in epidemic populations, and is often not known until a person comes in contact with this situation. Though normally not serious, the possibility should be made clear to employees who are assigned to this project. An allergy usually manifests itself as a red rash, and can be minimized by wearing long clothing and protecting the collar area and wrist/ankle areas. Treat the area with antihistamine lotion. Also, in dense populations of decaying moths, the hairs can become airborne and then inhaled causing discomfort. Respirators can relieve this situation. If a person knows that he or she has this allergy, they are responsible for notifying their supervisor immediately so that they can be reassigned. If a person learns during the project that they have an adverse reaction of any type related to the moth, reassignment shall take place.

STINGING INSECTS

Make your co-workers aware of any allergies you have to bee stings and make sure they know where your antidote is kept. Keep an eye out for hornets constructing nests and stay clear of them. A bee sting can be fatal.

BITING INSECTS

Ticks, deer flies and mosquitoes will be the major pests on this project. This nuisance can be minimized by wearing long clothing and using proper insect repellant.

POISON IVY

Learn to identify the plant then try to avoid it. If unavoidable, you should wear long clothing and watch where you are walking, sitting, or reaching. Ointments can be used to lessen the effects of poison ivy. Wash exposed areas of your skin and wash your clothes separately, the oil from the plant is the irritant.

POISONOUS SNAKES

Watch out for rattlesnakes and copperheads in the spring on warm exposed spots, especially along timber roads, or stream banks. Wear high boots and chaps or heavy, loose fitting pants, and look before stepping over logs or climbing hand over hand on rocks.

ANIMALS

Give domestic and wild animals a wide berth, particularly if they have young nearby. It is also possible that the wildlife you come upon may have rabies, so don't go near or attemp to touch them. If they are sickly or losing hair or frothing at the mouth, stay clear.

30.0 FIRST AID

NOTE: If a Forest Service employee, volunteer, human resource program enrollee, job corp enrollee, visitor, contract employees, or permittee is involved in an accident that involves the Forest Service and results in death, injury, illness, and/or property damage, consult FSM 6730 "ACCIDENT REPORTING AND INVESTIGATION", for appropriate reporting and investigation procedure. The site of the accident shall immediately be quarantined off from all personnel to include the public, other unauthorized government employees, contract personnel, and all other unauthorized personnel until investigators on site have completed the accident investigation. **At an aircraft crash site, the National Transportation Safety Board (NTSB), has officially stated and declared that all crash sites are considered contaminated and injuries inflicted from debris could be fatal, based from HIV & Hepatitis B research reports. It is very critical that these sites be handled with the utmost care from the time of the accident until the properly-clothed investigators arrive at the site. The least disturbed the crash site remains, the easier it becomes to investigate the cause. The area to be quarantined shall not be less than 300 ft in diameter (length of a football field) and encompasses the entire wreckage. If the wreckage is in an elongated pattern, use engineer ribbon to secure the area from sightseers.**

40.0 REPORTING ACCIDENTS AND INCIDENTS

Pesticide accidents and incidents must be followed by written Report FS-2100-D, Pesticide Accident and Incident Report, giving as applicable, the facts according to the reporting outline prescribed in FSH 2109.12, Chapter 50, 52-1 through 52-3.

Motor Vehicle Accidents - Within five working days of the accident, forms (SF-91, SF91A, the Accident Investigation Form) and damage estimates need to be completed and submitted to the Office Manager.4 hours of the accident.

Reports of accidents and incidents must include the following facts:

Location of accident or incident.

Ownership of property involved.

Chemical involved: common name, quantity of pesticide involved.

Weather conditions at time of accident or incident.

Vegetation and animal species involved.

If humans were involved, obtain a written statement from the attending physician.

Description of accident or incident including events immediately preceding and relating to the accident or incident.

Local, State, and other Federal agencies notified of accident or incident.

Action taken to coordinate corrective measures with other agencies.

Take corrective action to avoid silmilar actions in the future.

50.0 PROJECT INFORMATION

Each evening the Operations Dispatcher will post the accomplishments and the days work area on the DG mailing list titled : GM SPRAY . This list shall include: DISTRICTS, GL, J.PAGE, K.GOODRICH, S.C.SMITH:S24L08A, R.ACCIAVATTI:S24L08A, B.ONKEN:S24L08A, N.FEAKES:D5, and W.WOODLAND:D1.

In the event that an accident should occur, follow these procedures in order of priority and you will have done all you can:

1. Administer first aid if the injury is such that you can do so immediately. Use Personal Protective Equipment while trying to stop any bleeding and place the injured victim in as relaxing a position as possible. Check the breathing continuously as you transport the victim out of the area. If help is needed, contact via radio, the closest available unit to you for assistance.

2. In the event of a snake bite, try to remain calm and get the victim to a hospital within an hour. Light restriction above the bite may be helpful.

3. Contact your work supervisor as soon as possible. Supervisor should have information of each crew members emergency data including home phone number, and who to contact in event of emergency, as well as allergy information, blood type, etc.

4. Transport the victim to the nearest hospital to the area where you are located and try to get word to the medical facility that you will need their services and give them a summary of the situation. Also notify the Ranger so contact can be made to the injured person's family if needed and advise them of the injury and where the injured person is going for medical treatment.

5. Once at the hospital and the injured person is received by medical personnel, you should notify the District Office of the situation. Document the situation by time and event for future health care records. This will help you recall the incident/accident better after the excitement has settled.

6. Stay at the hospital until you are notified by medical personnel that you can go. If the injured person is discharged from the hospital, take the patient back to the District Office or to their home, whichever is appropriate.

7. In the event of a pesticide incident, such as swallowing or splashing in the eye, you should follow the label directions. The Material Safety Data Sheets (MSDS) for the compounds in use are included in the Appendix.

8. Don't forget the paperwork! Fill out a CA-1 and any other necessary reporting forms within 24 hours of the accident to receive health care benefits.

9. This situation doesn't stop here! Review the situation and take corrective action to avoid similar actions in the future by sharing the cause/effect of the situation with others during the project. An After Action Review (AAR) is most advantageous for those of us who are still working the project.

APPENDIX A

OPERATIONS PROCEDURE FOR EMERGENCIES

Notification procedures should follow standard operating procedures. The on-site project supervisor initiates notification as follows:

initial contact:

PROJECT OPERATIONS CENTER -

who notifies:

PROJECT LEADER - GARY BUSTAMENTE

Situation and Action:

GROUND VEHICLE

- All Accidents - Secure the site, administer first aid, contact State Police, notify employees supervisor (District Ranger-Forest Supervisor), do not move vehicle(s), begin report SF91.

AIRCRAFT

See Appendix B for an outline of the Pre-Accident Plan.

- 30 Min. Overdue - Call FAA in Elkins, they will contact other aircraft and airports in the area.

- 60 Min. Overdue - FAA will begin a search.

- Confirmed Down - Project Leader notifies local emergency services (911) to begin action then notify FAA. FAA will notify Flight Standard District Office to begin investigation.
Observation aircraft should locate and circle the site and contact Elkins Flight Service Station (FAA Emergency Locator Transponder (ELT) is 121.5

APPENDIX B

AIRCRAFT PRE-ACCIDENT PLAN OUTLINE

-Project Aviation Dispatcher (Petersburg)
Grant County Airport-Operations Center
POC: Mike Ledden, Scott Wells
Tele: 257-9078 (9079 unlisted)

-Project Aviation Safety Officer (Petersburg)
Operations Center
POC: Mike Ledden
Tele: 257-9078 (9079)

-Forest Aviation Officer (Elkins)
MNF Supervisor's Office
POC: Mike Ledden
Tele: 304-636-1800

-Regional Aviation Safety Officer (Milwaukee)
Eastern Region, R-9
POC: Greg Frederick
Tele: (414) 297-3744

-FAA Local Flight Service (Elkins)
Automated Flight Service
POC: Scott Robinson, Watch Supervisor
Tele: 304-636-4812

-Military Traffic Route Initiating/Scheduling Office
FAA Elkins
POC: Watch Supervisor
Tele: 304-636-4812

-Airports:

Grant County Airport, Petersburg	257-4435
Municipal Airport, Elkins	636-4812

APPENDIX C

COUNTY EMERGENCY MANAGEMENT SERVICES IN PROJECT AREA:

COUNTY	HEADQUARTERS FOR 24-HOUR COUNTY COMMUNICATION CENTERS	TELEPHONE NUMBER
RANDOLPH Elkins	ELKINS COMMUNICATION CENTER OR ELKINS FIRE DEPARTMENT	304/636-2000 304/636-3433 OR 304/636-3412
TUCKER Parsons	COUNTY DISPATCH CENTER	304/478-2121 or (911)
GRANT Petersburg	GRANT COMMUNICATION CENTER	304/257-1212
HARDY Moorefield	SHERIFF'S OFFICE	304/538-2872
PENDLETON Franklin	FRANKLIN NURSING HOME COUNTY WARNING POINT FRANKLIN EMERGENCY SERVICES DIRECTOR (O) & (H)	304/358-7911 304/358-2157
POCAHONTAS Marlinton	COUNTY DISPATCH	304/799-4567

Calls to the services listed below may be made directly, or, by going through the EMS Coordination Centers listed above.

HOSPITALS

Davis Memorial Hospital
Reed St.and Gorman Ave.
Elkins, WV 26241
304-636-3300

Grant Memorial Hospital
Petersburg, WV 26847
304-257-1026

Pocahontas Memorial Hospital
Marlinton, WV 24954
304-799-7400

Ruby Memorial Hospital
Morgantown, WV 26505
304-598-4000

APPENDIX C
(continued)

MEDICAL CLINIC

Tucker County Emergency Center
307 Main Street
Parsons, WV 26287
304-478-2511

POISON CONTROL CENTERS

Call 1-800-642-3625
Pittsburgh Poison Center 412-681-6669

WV SPILL INFO HOTLINE

1-800-642-3074

FIRE DEPARTMENTS

Circleville	567-2323
Elkins	636-3412
Franklin	348-7911
Harman	227-4500
Marlinton	799-4211
Parsons	478-4949
Petersburg	257-1221

WV STATE POLICE

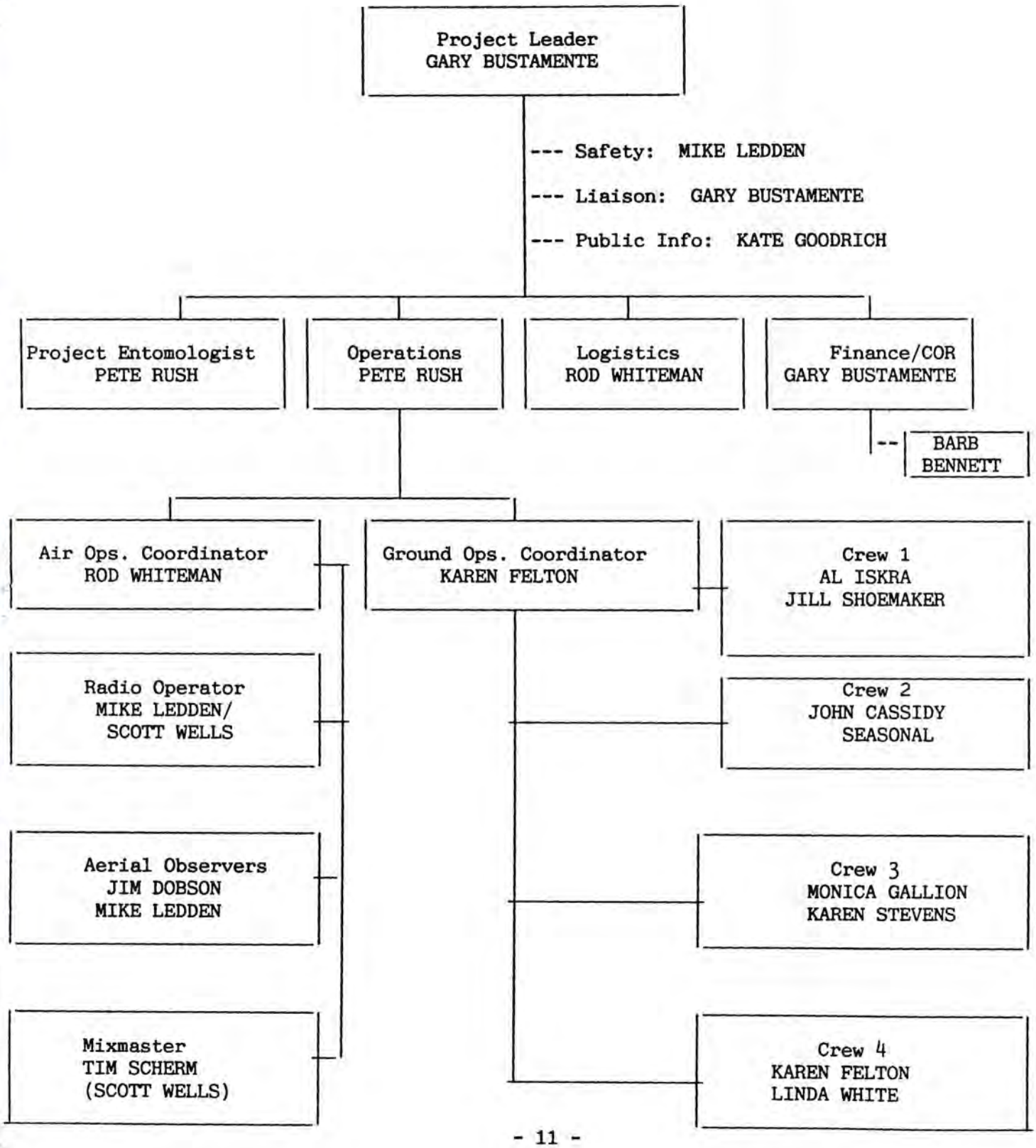
Randolph County	637-0200
Tucker County	478-3101
Grant County	257-1411
Pocahontas County	799-4101

FEDERAL LAW ENFORCEMENT

USDA/Forest Service (Elkins)	304-636-1800
US Marshall (Elkins)	304-636-0332
Bureau of Alcohol, Tobacco, and Firearms (Charleston)	304-346-8103
Federal Bureau of Investigation (Pittsburgh)	412-471-2000
US Secret Service (Pittsburgh)	412-644-3384

APPENDIX D

1994
GYPSY MOTH SPRAY
MONONGAHELA NATIONAL FOREST



APPENDIX E

Revised 04/28/94

ADMINISTRATIVE TELEPHONE NUMBERS

A		
Robert Adams (WV Pesticide Investigator)	285-3215	
Airport Operations	257-9078	FAX 304-257-2681 (Judy Drug)
Airport "Unlisted"	257-9079	
Allegheny Wood Products	257-1082	(Jerry)
Art Medium	636-6820	(Brad)
B		
Temple Bowen, Novo Rep.	203-790-2632	FAX 203-790-2611
C		
Caroll's Septic	822-3492	
Charlie Coffman	588-2212	FAX 304-558-2435
Charleston Flt. Stds.	347-5199	(Dave Townsend)
Charleston Weather Service	347-5201/5202	Jeff Sites, lead forecaster
D		
E		
ELKINS FSS (FAA)	636-4812	
ELKINS NOTAM	800-772-2666	
F		
Karen Felton (Home)	291-0019	
Bob Frame	558-2204	
Ft. Hill Motel	257-4717	
G		
Grant County Airport	257-4435	(Jean Coneful)
Grant County AWOS	257-2477	
GTE	800-356-6969	
H		
Harold's Flying Service (Marie)	815-495-2821	FAX 815-495-3661
Hermitage Motel	257-1711	(Diane)
Homestead Motel	257-1049	
Darrell Hinkel	703-999-3577	
I		
Innskeep House	257-9072	
J		
Jennifer Johnson (WVDA P.I.O.)	588-2201	FAX 304-558-2203

EXHIBIT E
(Continued)

K			
	Dana Keplinger	358-2366	
	Mike King, Novo Rep.	302-465-1907	VOICE 203-790-2694
L			
M			
	Mountain State Trailer Rental	1-800-352-8322	(Jim 'Kling' JR.)
N			
	Novo Customer Service	800-879-6686	(Dottie)
O			
	Oceana NAS (IR 720,714)	804-433-1228/ 1323	Call before 1830, ask for Ro Williams or Harvill). Lt. Kirk to close MTR.
	Brad Onkin (Home)	292-8924	
P			
	John Podgwaite (gypchek)	203-773-2033	
	Potomac Ranger District	257-4488	
	Marc Pons	567- (2311?)	
Q			
R			
	Dick Reardon	285-1566	FAX 303-285-1505
S			
	Tom Schmidt	203-790-2695	
	Dr. King Seeger	567-2800	
	Seneca Shadows CG	567-2415	(Ruth)
	Shook Electric	257-1333	
	Smokehole Cabins	257-4420	(Diane Crites)
	Southern States	257-1850	(Tim Carbone)
	Spills (State Center)	1-800-642-3074	
T			
U			
V			

EXHIBIT E
(Continued)

W			
	Keith Watson	703-999-3496	
	Washington NWS	703-260-0410/ 0109	
	WELD Radio Station	538-6162	Fisher, WV
	Rod Whiteman (Home)	291-2001	
	Mike Willengorg	358-2158	
	Bob Wolf (S24A)	215-975-4121	FAX 215-975-4200
	Wright-Patterson AFB	513-255-2207	
		513-257-6801/ 4270	Cpt. Zettlemoyer
	WSVA Radio Station	703-434-0331	Harrisonburg, VA
	WV Welding	304-636-8920	(John/Ted)
	WVDA Airport Opns	257-2796	
X			
Y			
	Charlie Yuill GPS	293-2141	
Z			

APPENDIX F

RADIO LAND/AIR COMMUNICATIONS

Communication is very critical during operations of this type. Land-to- land, land-to-air, and air-to-land operational communciations is a necessity in providing a safe environment during the project.

We have borrowed a high band radio network from a National Cache. Be aware that there are similar problems with the high band as with the low band. Radio waves bounce off objects but travel much better when the path is clear. Ground crews will have more problems communicating than aircraft. Moving just a few feet often solves the problem. Sometimes it is necessary to go to higher ground. In mountainous country you have to learn to nurse the system. The aerial observer is equiped for communicating with the ground crews and should be able to assist in relaying messages.

During Aerial spraying, it is critical to the operation that the activities and locations, of both aircraft and ground crews, are transmitted to the Operations Center Dispatcher for monitoring operations.

In the event of an accident, air or ground, it is critical to remain calm and act decisively. First transmissions should be to the Operations Center to report conditions. Then the Ops Center can provide assistance via radio or telephone to attain the appropriate help necessary. If you are in a position that you cannot contact the Ops Center, immediately contact the District Office closest the operation. Don't panic. If you follow this procedure, you are doing everything you possibly can do under these conditions. Don't waste time driving to the District Office to file a report where human welfare can be compromised. You are not prepared to move an injured body to a hospital as well as an ambulance crew. Use your head and use your radio. All other radio traffic should stay clear of any communication transmission during an emergency.

A separate handout concerning the operation and use of the portable radios is available. Ask your supervisor or the Operations Dispatcher for a copy.

MONONGAHELA NATIONAL FOREST RADIO FREQUENCIES:

AIR/GROUND	123.45		
AIR/AIR	123.45		
GROUND/GROUND	**(Local - no transmitter)**		
GROUND/GROUND FS	170.575		
GWNF	170.450 Tx 168.100 Rx	**WVDA**	159.225 (1) 159.270

EMERGENCY LOCATOR TRANSMITTER (ELT) 121.500

APPENDIX G

JOB HAZARD ANALYSIS

USDA Forest Service JOB HAZARD ANALYSIS (Instructions on Reverse & Ref. FSH 6709.12)	1. Primary Job/Project GYPSY MOTH PROJECT	2. Location MONONGAHELA NATIONAL FOREST	3. Unit FPM - MNF
	4. Name of Analyst GARY BUSTAMENTE	5. Job Title of Analyst PROJECT LEADER	6. Date Prepared 04/22/94

7. Tasks/Procedures	8. Hazards	9. Abatement Actions Engineering Controls * Substitution * Admin Controls * PPE
Handling Heavy Tanks and Drums	Strains and Fractures	Use mechanical lifting devices, avoid strains, wear gloves and wear hard-toe boots.
Helium Tanks	Compressed Gas/Strains	Anchor tanks when transporting in vehicles; protect valves; avoid dropping. Escaping gas could cause container to become a projectile.
Filling Balloons with Helium	Balloon Rupture	Inspect balloon before inflation for defects; do not over-inflate.
Foot Travel	Fatigue	Divide heavy loads. Take breaks. Stay in shape.
	Night Travel	Recon during daylight. Use head lamps. Notify landowner in advance. Wear hard hat and eye protection.
	Getting Lost	Use landmarks for guidance. Follow land feature, i.e., streams. Trust the compass.
	Falling	Learn to fall. Wear good boots (8-inch tops, lug soles, leather).
	Hunting Seasons	Wear fluorescent colors.
	Forest Vegetation	Wear hard hats, eye protection, canvas clothing.
	Fences	Cross at gates or near posts; do not stretch wire. Avoid barbs with clothing; wear gloves. Consider all electric fences to be live.
Aircraft	Propeller	Stay at least 100 feet away from aircraft. Approach only with approval of pilot.
Handling Pesticides	Exposure	Flag handling area and post signs; have wash and first aid equipment on site.
	Hypersensitivity	Hypersensitive people should not be employed for the project.
	Mixing	Eye protection and gloves are required. Head cover and respirators are optional.
Exposure to:	Gypsy Moths	Hairs from moths can cause irritations to the skin and airway. Wear long-sleeved shirts and use respirators if hairs are in the air.
	Biting/Stinging Insects	Blouse pants; wear long-sleeved shirts; apply repellant; check for ticks frequently.
	Poison Ivy	Ivy prevention cream before exposure is optional. Wash affected area. Wash clothes separately.
	Poisonous Snakes	Wear high top leather boots; loose fitting clothes; watch where stepping. Bite victims should be taken to hospital rather than treated in the field.
		Snake chaps are optional.
Vehicle Travel	Good Conditions	Limit speed; plan your route; watch for objects in your path, i.e., deer, children, rocks, etc.; drive defensively; wear seat belts.
	Reduced Visibility Conditions Due to Poor Light, Rain, Dust, Fog, Etc.	Drive with lights on all of the time when visibility is reduced. Wear seat belts. Drive defensively.

10. Approved by	11. Title	12. Date

Previous edition is obsolete (over) FS-6700-7 (2/94)

APPENDIX H

TOXICOLOGY PROFILES

Attached are the Material Safety Data Sheets (MSDS) for the compounds being used.

Novo Nordisk

MATERIAL SAFETY DATA SHEET

FORAY® 48B

NOVO NORDISK BIOINDUSTRIALS, INC.
33 Turner Road,P.O. Box 1907
Danbury, CT 06813-1907

Issued: 5/88; Revised:3/92
Emergency Phone Number: (203) 790-2600
CHEMTREC Number: (800) 424-9300

I. IDENTIFICATION

PRODUCT NAME: FORAY® 48B
CHEMICAL NAME: Bacillus thuringiensis Berliner subsp. kurstaki
FORMULA: NA
MOLECULAR WEIGHT: NA

EPA REG. NO. 58998-7
CHEMICAL FAMILY: Biological insecticide
SYNONYMS: NA

DEPARTMENT OF TRANSPORTATION:
HAZARD CLASSIFICATION: None
CAS NUMBER: 68038-71-1

SHIPPING NAME: None
CAS NAME: Bacillus thuringiensis

II. HAZARDOUS COMPONENTS

MATERIAL:	%	TLV (Units)	HAZARD
Active ingredient:			
Bacillus thuringiensis kurstaki	2.1	None	None known

III. HEALTH HAZARD DATA

EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING: Rinse mouth and throat with clear clean water.
SKIN: Wash with clear clean water.
INHALATION: Remove from exposure.
EYES: Flush with quantities of water.
TLV AND SOURCE: None established by ACGIH or OSHA
ACUTE EFFECTS OF OVEREXPOSURE
SWALLOWING: None known **INHALATION:** None known to exist
SKIN ABSORPTION: None known to occur
SKIN CONTACT: Transient irritation may occur
EYE CONTACT: Transient irritation may occur
CARCINOGENICITY: NTP? No IARC Monographs? No OSHA Regulated? No

IV. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Foray 48B, which is an aqueous concentrate, is biodegradable and not harmful to the environment, animals, fish, birds, aquatic invertebrates or non-target insects.

If spilled on solid surface, such as road or pavement, dike and absorb spill as much as possible with inert material (kitty litter, etc.) and transfer to suitable container for disposal. Flush with water to dilute remaining material and to disperse onto soil for biodegradation.

WASTE DISPOSAL METHOD: Waste disposal depends upon local requirements. Assure adherence to Federal, State and Local regulations subsequent to disposal.

V. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: None required under usual conditions of use. However, if potential exposure to aerosol occurs in enclosed, inadequately ventilated area, refer to NIOSH Criteria Guides to determine appropriate respiratory protection unit.
VENTILATION: Local exhaust as necessary to reduce, prevent, and control aerosol generation at source.
PROTECTIVE GLOVES: None required under usual conditions of use.
EYE PROTECTION: None required under usual conditions of use.
OTHER PROTECTIVE EQUIPMENT: As needed to prevent personal contact.

VI. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Maintain good housekeeping, vacuum spills, avoid creating aerosol.

OTHER PRECAUTIONS: Long exposure of product to high heat and humidity may reduce product activity.

VII. PHYSICAL DATA

BOILING POINT, 760 mm Hg: NA
VAPOR DENSITY (AIR = 1): NA
APPEARANCE AND ODOR: Flowable liquid concentrate, characteristic fermentation aroma
POUR POINT: NA
EVAPORATION RATE (BUTYL ACETATE = 1): NA
SOLUBILITY IN WATER- Not soluble, but readily miscible
SPECIFIC GRAVITY (H_2O = 1): 1.12-1.20
PERCENT VOLATILES BY VOLUME: NA
pH: 4.1 - 4.8
VAPOR PRESSURE AT 20°C: NA
% BY WT.: Suspendable

VIII. FIRE AND EXPL)SION HAZARD DATA

FLASH POINT (TEST METHODS): NA
FLAMMABLE LIMITS IN AIR, % BY VOLUME: NA
UNUSUAL FIRE AND EXPLOSION HAZARDS: None known to exist. Non- explosive
EXTINGUISHING MEDIA: No special requirements
SPECIAL FIRE FIGHTING PROCEDURES: No special requirements

IX. REACTIVITY DATA

UNSTABLE:
STABLE: X
CONDITIONS TO AVOID: None known
INCOMPATIBILITY (MATERIALS TO AVOID): None known
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: None known
HAZARDOUS POLYMERIZATION: MAY OCCUR:
WILL NOT OCCUR: X
CONDITIONS TO AVOID: None known

NOVO NORDISK

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Foray™ 48B

Flowable Concentrate

Forest, Trees and Shrubs

KEEP OUT OF REACH OF CHILDREN

CAUTION

If in eyes, flush with plenty of water. Get medical attention if irritation persists.

CTIVE INGREDIENT:

Bacillus thuringiensis subsp. *kurstaki* 10,600 International Units (IU)/mg of product (equivalent to 48 billion IU/gallon)	2.1%
IERT INGREDIENTS:	97.9%
TOTAL	100%

RECAUTIONARY STATEMENTS: *Hazards to Humans and Domestic Animals:* May cause eye irritation. Avoid contact with skin, eyes, open wounds or clothing. Wash thoroughly with soap and water after handling.

nvironmental Hazards: Do not contaminate water when disposing of equipment washwaters.

IRECTIONS FOR USE:

is a violation of Federal Law to use this product in a manner inconsistent with its labeling. FORAY contains the spores and endotoxin crystals of *Bacillus thuringiensis kurstaki*. FORAY is a stomach poison and has high specific activity against lepidopterous larvae. After ingestion, larvae stop feeding within hours and die 2-5 days later. Maximum activity is exhibited against early instar larvae. FORAY 48B Flowable Concentrate may be used for both ground and aerial application. The product should be shaken or stirred before use. Add some water to the tank mix, pour the recommended amount of FORAY 48B to the tank and then add the remaining amount of water to obtain the proper mix ratio. Agitate as necessary to maintain the suspension. The diluted mix should be used within 72 hours.

round Application: Use an adequate amount of tank mix to obtain thorough coverage without excessive run off. Use the recommended per acre dosages of FORAY 48B in the following amounts of water:

High volume hydraulic sprayers	100 gallons
Mist blowers	10 gallons

erial Application: FORAY 48B may be applied aerially, either alone or diluted with water at the dosages shown in the application rates table. Spray volumes of 32-128 ounces per acre are recommended. Best results are expected when FORAY 48B is applied to dry foliage.

E-ENTRY: FORAY may be applied up to and including the day of harvest.

STORAGE AND DISPOSAL: Do not contaminate water, food or feed by storage or disposal of waste.

torage: Store in a cool, dry place. Keep containers tightly closed when not in use. Store in temperatures above freezing and below 32 degrees C (90 degrees F).

Pesticide Disposal: Pesticide waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility in accordance with federal and local regulations.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

APPLICATION RATES:

Crop	Pests	Rate* (pts/acre)	Dosage* (BIU/Acre)
Forests, Shade Trees, Ornamentals, Shrubs, Sugar Maple Trees, Seed Orchards, Ornamental Fruit, Nut and Citrus Trees	Gypsy moth	1.3-6	8-36
	Spruce budworm, browntail moth, Douglas fir tussock moth, coneworm	1.3-5	8-30
	Tussock moths, pine butterfly, bagworm, leafrollers, tortix, mimosa webworm, tent caterpillar, jackpine budworm, black headed budworm, elm spanworm, saddled prominent, saddleback caterpillar and hemlock looper	1-2.7	6-16
	Redhumped caterpillars, spring and fall cankerworm, California oakworm, fall webworm	0.7-1.3	4-8

*Use the higher recommended rates on advanced larval stages or under high density larval populations.

WARRANTY NOTICE: NOVO NORDISK MAKES NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PURPOSE OR OTHERWISE, EXPRESS OR IMPLIED, concerning this product or its uses which extend beyond the use of the product under normal conditions in accord with the statements made on this label. In no case shall the seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer.

PA Registration No. 58998-7
EPA Est. No. 58998-DN-001

O48M91

MANUFACTURED FOR:
Novo Nordisk
33 Turner Road
Danbury, Connecticut 06813-1907

NET CONTENT

(U.S. GALLONS)

MATERIAL SAFETY DATA SHEET[1]

(Form "Essentially Similar" to OMB No. 1218-0072)

PRODUCT NAME: GYPCHEK GYPCHEK	CHEMICAL NAME: Nucleopolyhedrosis Virus of *Lymantria dispar*, The Gypsy Moth
FORMULA: As a biological organism, this a.i. does not lend itself to characterization by normal pesticide criteria.	MOLECULAR WEIGHT: N/A
SYNONYMS: N/A	CHEMICAL FAMILY: N/A

I. PHYSICAL DATA

BOILING POINT: N/A	FREEZING POINT: N/A
SPECIFIC GRAVITY ($H_2O=1$): N/A	VAPOR PRESSURE (mm Hg.): N/A
VAPOR DENSITY (AIR=1): N/A	EVAPORATION RATE (Butyl Acetate=1): N/A
% VOLATILES BY VOLUME: N/A	SOLUBILITY IN WATER (% by wt.): Insoluble

APPEARANCE AND ODOR.
Dried insect body parts and virus polyhedra.

II. HAZARDOUS INGREDIENTS

MATERIAL	PERCENT	TLV (Units)
N/A		

III. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): N/A	FLAMMABLE LIMITS: N/A

EXTINGUISHING MEDIA:
Water on burning container.

SPECIAL FIRE FIGHTING PROCEDURES:
None except to avoid inhalation of particulates released by fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
N/A

[1] Prepared in compliance with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

IV. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE:	Not established.
EFFECTS OF OVEREXPOSURE:	None known.
EMERGENCY AND FIRST AID PROCEDURES:	Remove from exposure situation.
NOTES TO PHYSICIAN:	Allergies and/or hypersensitivity may occur in some individuals.

V. REACTIVITY DATA

STABILITY: UNSTABLE ☐ STABLE ☒

CONDITIONS TO AVOID	Do not store in sunlight or at high temperatures.
INCOMPATIBILITY (materials to avoid	N/A
HAZARDOUS DECOMPOSITION PRODUCTS	N/A

HAZARDOUS POLYMERIZATION: MAY OCCUR ☐ WILL NOT OCCUR ☒

CONDITIONS TO AVOID	None

VI. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Containment and cleanup by placing in a sealable container for transport to an approved landfill or other disposal site.
WASTE DISPOSAL METHOD	Burn bags or triple rinse containers and dispose them and excess product at an approved site.

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	Use normal work clothing and medical face mask as appropriate.
VENTILATION: LOCAL EXHAUST	N/A
MECHANICAL (general)	N/A
PROTECTIVE CLOTHING:	Goggles and face mask as appropriate.
OTHER PROTECTIVE EQUIPMENT:	None except to have eyewash, soap, and water available.

VIII. SPECIAL PRECAUTIONS

PRECAUTIONARY LABELING	**Keep out of reach of children.** **For use only in USDA-FS-supervised projects.** **Avoid direct application to water.** **Do not contaminate water by inappropriate disposal.**
OTHER HANDLING AND STORAGE CONDITIONS	**Avoid heat and sunlight.** **Dispose in approved sanitary landfill or by incineration, as allowed by State and local authorities.** **Do not reuse "empty" containers.**

DEPARTMENT OF TRANSPORATION	HAZARD CLASSIFICATION	**Non-hazardous, non-toxic**
	SHIPPING NAME	**Nucleopolyhedrosis Virus**
EPA REGISTRATION #	**27586-2**	
NAME	**Nucleopolyhedrosis Virus**	

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USDA Forest Service
P.O. Box 96090
Washington, DC 20090

Emergency Telephone No. (202) 837-8570

V. HEALTH HAZARD INFORMATION

TLV AND SOURCE: None established by ACGIH or OSHA.
ACUTE EFFECTS OF OVEREXPOSURE
SWALLOWING: None known INHALATION: May induce asthmatic attack in individuals sensitive to sulfites.
SKIN ABSORPTION: Not known to occur.
SKIN CONTACT: Transient irritation may occur.
EYE CONTACT: Transient irritation may occur.
CARCINOGENICITY: This material is not considered to be a carcinogen by the National Toxicology Program, the International Agency for Research on Cancer or the Occupational Safety and Health Administration.

VI. EMERGENCY AND FIRST AID PROCEDURES

SWALLOWING. Rinse mouth and throat with clear, clean water. Drink water to dilute. Refer to a physician if patient feels any ill effects.
SKIN: Wash with clear, clean water.
INHALATION: Remove from exposure. Watch for asthmatic attack.
EYES: Flush with quantities of water.

VII. REACTIVITY DATA

UNSTABLE: STABLE: X CONDITIONS TO AVOID: Burning
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers.
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: None known
HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X CONDITIONS TO AVOID: None known

VIII. PREVENTIVE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Dike and absorb spill with inert material (kitty litter, etc.) and transfer to suitable container for disposal.
WASTE DISPOSAL METHOD: Waste disposal depends upon local requirements. Assure adherence to Federal, State and Local regulations subsequent to disposal.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Maintain good housekeeping, vacuum spills, avoid creating aerosol.
PERSONAL PROTECTIVE EQUIPMENT:
RESPIRATORY PROTECTION: As required to protect against aerosol or airborne dust. Refer to NIOSH Criteria Guides to determine appropriate respiratory protection unit.
VENTILATION: Local exhaust as necessary to reduce, prevent, and control aerosol generation at source or airborne dust.
PROTECTIVE GLOVES: Recommended for prolonged exposure.
EYE PROTECTION: Goggles recommended.
OTHER PROTECTIVE EQUIPMENT: As needed to prevent personal contact.

IX. PREPARATION INFORMATION

CONTACT: Regional Manager, Regulatory Affairs
Plant Protection Division
Novo Nordisk Bioindustrials, Inc.
During Business Hours (203) 790-2600

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CARRIER 244

RCV BY:MONONGAHELA N. F. ; 4-14-94 ; 3:19PM ;

APPENDIX J

PROJECT MAP

with

Locations of HOSPITALS and AIRCRAFT HAZARDS

APPENDIX K

DISTRIBUTION OF PLAN

In order to send the message that Safety is extremely important during these projects, the following personnel/offices have received a copy of this plan.

1	R-9 Regional Aviation Officer	Ed Stone
1	Public Service Group	Steve Chandler/K.Goodrich
1	Technical Services Group	Mike Herth
1	Administration Services Group	Ben Backus
1	Forest Supervisor	Jim Page
1	Forest Receptionist	Nancy Barrett
1	Cheat Ranger District	Bill Woodland
1	Potomac Ranger District	Nancy Feakes
3	Forest Health Protection Morgantown	S.C.Smith:S24L08A R.Acciavatti:S24L08A B.Onken:S24L08A
15	Copies for each crew member	
3	Extra file copies	